

IDAHO DEPARTMENT OF FISH & GAME

Jerry M. Conley, Director

FEDERAL AID TO FISH AND WILDLIFE RESTORATION

Job Performance Report

Project Fdf-70-D-4



CHEMICAL REHABILITATION OF FISHERIES

Period Covered: 1 July 1979 to 30 June 1980

By

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State Fishery Manager

October, 1980

JOB PERFORMANCE REPORT

State of Idaho

Name: CHEMICAL REHABILITATION OF FISHERIES

Project F-70-D-4

Job No. 1

Period covered: 1 July 1979 to 30 June 1980

ABSTRACT

Chemical rehabilitation projects are conducted with the objectives of eradicating undesirable fish populations, reducing nuisance to anglers, reducing competition with game fish and improving the growth and survival of game fish to improve angling.

One chemical treatment project was conducted in 1979. This project involved treatment of Island Park Reservoir and tributaries to control undesirable populations of Utah chub and Utah suckers. The project was primarily funded by the USDI Water and Power Resource Service.

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RECOMMENDATIONS

Chemical eradication of rough fish should be recognized as an important part of overall fishery management programs. Whenever undesirable fish populations create conditions detrimental to sport fishing, chemical eradication should be considered.

OBJECTIVES

Eradicate undesirable fish populations in Idaho waters.

Reduce competition with game fish and nuisance to anglers caused by rough fish.

Improve sport fishing by improving the growth and survival of game fish.

TECHNIQUES USED

Water levels and fish populations are monitored in a number of waters where rough fish occur to determine the need and feasibility of chemical eradication of rough fish.

When rough fish, or stunted populations of game fish, increase to the point where they are a serious detriment to the sport fishery, and low water levels occur so that chemical treatment is economically feasible, chemical treatment is conducted.

Ordinary techniques include application of emulsified rotenone or concentrated liquid fintrol with boat bailer, spray pump or drip station and hand scattering fintrol sand.

FINDINGS

Island Park Dam was scheduled by WPRS for major reconstruction work in 1979. Concrete portions of the spillway and outlet works were deteriorating and crumbling. The emergency spillway and dam freeboard were deemed inadequate to handle the largest possible flood and there were no provisions for water release except through the main outlet. Reconstruction was required in order to bring the dam up to present federal safety and operational standards. To facilitate dam reconstruction, the reservoir was drained completely for the first time since originally filled in the 1930s.

The complete drawdown provided an excellent opportunity to attempt eradication of problem rough fish populations. Because the existing fishery would be eliminated by the drawdown, WPRS agreed to cover the cost of toxicants used to treat the reservoir and a portion of the cost of restocking with game fish.

The treatment project included a number of tributaries, springs and reservoirs within

The normally flooded pool and one fairly large reservoir on a tributary stream. The major tributary, Henrys Fork, was not treated above the reservoir high water mark because many large salmonids, including spawning kokanee had moved into this river area as the reservoir was dewatered, few rough fish were present and the public desired to save as many game fish as possible.

The chemical rehabilitation project was done during the period of 25 September to 2 October, 1979. Public information on the project had been provided during the previous year through news releases, public hearings, Fish and Game Commission approval and WPRS Declaration of Negative Impact. Overall planning was not completed until late September when dewatering of the reservoir was completed and permission to treat waters on private lands was received.

Sheridan Reservoir, Sheridan Creek, Bishop Springs Reservoir, irrigation ditches and isolated pools and channels in the reservoir basin were treated with rotenone and fintrol between 25 September and 30 September. Henrys Fork below McRea Bridge, Island Park Reservoir dead storage, Trude's Reservoir, Hotel Creek Reservoir, Grizzly Springs, Moose Springs, Shotgun Creek and adjoining sloughs, gravel pits and springs were treated with rotenone beginning at 0430 on 1 October. The dam gates were closed and the reservoir began refilling at 0800 1 October.

A potassium permanganate (KMnO_4) dispenser was set up and operated below the dam to detoxify seepage flows to protect the lower river. IDFG hatchery personnel and members of Upper Snake Trout Unlimited salvaged approximately 1,200 pounds of trout below the dam when the gates were closed.

On 2 October, spot treatments of isolated pools, old building foundations and an old mine shaft were conducted.

The bulk of the fish killed were Utah chubs, Utah suckers, and reside shiners. A few large trout and numerous juvenile kokanee were killed. No estimate was made of the total kill because access to the reservoir was very limited. Total elimination of rough fish was not achieved because of the turbidity in the dead storage area, the large inflow of fresh water and the many inaccessible springs and pools.

The gates to the dam remained closed until the reservoir was nearly refilled some 120 days after the treatment. The reservoir refilled at a rate in excess of 1,000 acre/feet per day, rapidly diluting the piscicides used.

Restocking the reservoir and other treated waters began approximately two weeks after the treatment. The piscicides in the dead storage area detoxified rapidly due to turbidity and a dilution factor of 25-30 times. By June 1980 approximately 600,000 fingerling rainbow trout, 210,000 catchable rainbow trout and 530,000 fingerling coho salmon were stocked in the reservoir and adjoining waters. Brook trout, cutthroat trout and rainbow x cutthroat hybrid trout were stocked in the tributary streams and Sheridan Reservoir to replace game fish eradicated in the treatment. Future stocking schedules call for approximately 500,000 each of coho, kokanee and rainbow fingerlings and 100,000 rainbow catchables to be stocked annually to maintain the fishery. By mid-summer of 1980 fishing was excellent for trout up to 12 inches and one pound. The prognosis is for excellent fishing for the next several years.

Resources used to perform the treatment included 54 man-days by IDFG personnel, approximately 20 man-days of volunteer help from Upper Snake Trout Unlimited, approximately 17 days of motor boat and canoe use, and miscellaneous equipment including pumps, boat bailers, drip valves, gill nets, and hoses.

Materials used were 1170 gallons of rotenone, 20 units of fintrol (Antimycin A), and 200 pounds of potassium permanganate.

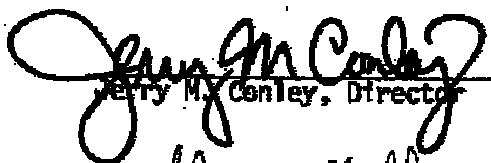
WPRS contributed \$10,000 towards the cost of materials and \$25,000 towards the cost of restocking. The remainder of the costs of the treatment were covered by the Chemical Rehabilitation and Fishery Management Investigations budgets which are DJ funded and by the Fishery Management, Fish Hatchery, Enforcement and Regional Administration budgets which are license funded.

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